

Title: Factors Influencing Men's use of prostate-specific antigen (PSA) Screening: Evidence from Health Information National Trends Survey (HINTS).

Co-authors:

Lila Finney Rutten	301.496.8640	finneyl@mail.nih.gov
Helen Meissner	301.435.1505	meissneh@exchange.nih.gov
Barbara Rimer	919.843.8088	brimer@unc.edu
Nancy Breen	301.496.4675	breenn@mail.nih.gov
Sally Vernon	713.500.9760	sally.w.vernon@uth.tmc.edu

Research questions:

Research Question 1: What is the prevalence of PSA screening by key demographic variables?

Research Question 2: Are quality of patient provider interaction, provider recommendation, and information seeking associated with screening?

Study description/rationale:

Cancer of the prostate is the most common noncutaneous cancer diagnosis among American men and is the second leading cause of their cancer mortality (Weir et al., 2003). As such, prostate cancer burden poses a significant public health problem in the U.S. The cause of prostate cancer is unknown. Moreover, the most well documented risk factors for prostate cancer including age, ethnicity and family history are not modifiable (Harris & Lohr, 2002).

Screening procedures for prostate cancer include prostate-specific antigen (PSA) testing and digital rectal examination (DRE). Results of the first randomized controlled trial of prostate screening with PSA and DRE provided no evidence of a mortality benefit of screening (Labrie, et al., 1999). Mortality data from two other randomized controlled trials of prostate screening initiated in 1994 will not be available for several years. Therefore current evidence to determine a mortality benefit from prostate screening to support recommendations for routine screening is insufficient (Harris & Lohr, 2002; US Preventive Services Task Force, 2002; Smith et al., 2001). Furthermore, it is not clear whether the benefits of screening outweigh potential risks (Barry et al., 1995; Burack et al., 1999; Coley et al., 1997; Woolf, 1995; Harris, 2002). Positive PSA tests require additional testing that may lead to more invasive diagnostic tests. Radical prostatectomy and radiation treatments for prostate cancer may produce complications such as erectile dysfunction and urinary incontinence (Potosky et al., 2000). Recent data indicate a decline in prostate cancer mortality (Weir et al, 2003). Although screening may play some role in this decline, the data are not conclusive. Thus, most professional organizations do not recommend screening with PSA.

Despite uncertainty regarding the benefits of screening, since the early 1990's the use of PSA testing has become widespread. Data from the 2000 National Health Interview Survey indicate that the prevalence and pattern of PSA screening among US men is similar to that of other cancer screening tests; 41% of US men reported having had a PSA screening exam within the last year (Swan et al., 2003). Self-reports of PSA screening may result in a conservative estimate of actual screening prevalence, given that some men may have had the test done without their knowledge (Chan, in press).

The widespread use of PSA testing in the face of controversy regarding the benefits of screening renders attention to issues of informed patient decision-making critical (Briss et al.).

As with other screening and treatment options, physician recommendation is likely to be an important influence on patient decisions regarding PSA testing and treatment. Many professional organizations (American College of Physicians, 1997; American Cancer Society, 2003; American Academy of Family Physicians, 2002; American Urological Association, 2000; Harris et al., 2002) recommend that physicians assist their patients in making informed decisions about PSA testing. However, recent investigations reveal inconsistency in physicians' perspectives on relaying certain information about PSA screening to patients (Chan et al., 2003a) and low levels of understanding of the risks and benefits of screening among patients (Chan et al., 2003b; O'Dell et al., 1999). These investigations suggest that deficits in patients' knowledge about PSA testing may impede informed decision making (O'Dell et al., 1999). Several studies have shown that screening rates decline when patients are informed about the benefits and limitations of PSA testing through a process using decision aids (e.g. Barry, 2002; Frosch et al., 2001)

In light of the controversy surrounding the costs and benefits of PSA screening, physician communication regarding the risks and benefits of screening is crucial to informed decision-making among patients. The purpose of this report is to examine information about the prevalence of self-reported ever use of PSA among a national sample of US men to: 1) examine PSA test use among subgroups defined by key demographic characteristics, and 2) explore the association between "ever" use of PSA and factors relevant to informed decision-making including quality of patient-provider interactions, provider recommendations as reported by respondents, and information seeking behaviors of respondents.

Datasets to be used: HINTS 2003

Variable list:

spage	First, what is your age?
spgender	Are you male or female?
hc1usual	Do you have a regular health care provider?
hs5healt	Do you have any kind of health coverage?
dm1maina	What is your employment status?
dm2marit	What is your marital status?
dm4hispa	Are you Hispanic or Latino?
dm5race1	What is your race?(1)
dm6educa	Highest grade/year of school completed?
dm7ainco	Is income less than 25K?
dm7binco	Is income less than 20K?
dm7cinco	Is income less than 15K?
dm7dinco	is income less than 10K?
dm7einco	Is income less than 35K?
dm7finco	Is income less than 50K?
dm7ginco	Is income less than 75K?
dm7hinco	Is income 75K or more?
pc3aever	Have you ever heard of a PSA test?
pc4docto	Ever been advised to have a PSA test?
pc5hadps	Ever had a PSA test?
pc6whenp	When was most recent PSA test?
pc7psala	Before the most recent, when was last PSA test?

hc4apro	During last 12 months, how often did they listen carefully?
hc4bprov	During last 12 months, how often did they explain clearly?
hc4cprov	During last 12 months, how often did they show respect?
hc4dprov	During last 12 months, how often did they spend enough time?
hc4epro	During last 12 months, how often did they involve you?
hc13wher	Where did you look first for cancer information?
hc14	What type of information were you looking for in your most recent search?
hc16	Where might you like to get information?
hc18	How much would you trust the information from that source?
fwgt	Final full-sample weight

Method of analysis:

Research Question 1: *What is the prevalence of recent and repeat screening by key demographic variables?* Crosstabulations of recent and repeat PSA screening and the following sociodemographic variables will be conducted: race/ ethnicity, employment, income, education, insurance, and age. Logistic regression will be used to ascertain the extent to which recent and repeat PSA screening is predicted by sociodemographic variables.

Research Question 2: *Are quality of patient provider interaction, provider recommendation, and information seeking associated with screening?* Logistic regression will be used to ascertain the extent to which recent and repeat PSA screening is predicted by patient-provider interaction quality, provider recommendation, and information seeking controlling for sociodemographic variables (i.e. including them in the model).

Given the high rates of prostate cancer incidence and mortality in African American men, we will stratify analyses by race where possible. Racial differences in information seeking behavior may indicate the need for different strategies to enable men to make informed decisions about prostate screening.

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Presentations

Finney Rutten, L.J., Meissner, H.I., Rimer, B.K., Breen, N. Factors influencing men's use of prostate-specific antigen (PSA) screening: Evidence from the Health Information National Trends Survey (HINTS). Invited for presentation at 7th International Symposium on Predictive Oncology & Intervention Strategies, Nice, France. February 7-10, 2004